



长沙开元仪器有限公司

Changsha Kaiyuan Instruments Co.,Ltd.

Dear Customers:

Thank you for purchasing our products. Our professional after-sale service team will be dedicated to serve for you.

To promptly serve for you and earlier application to the instrument, we hereby notify you the installation conditions and provide the list of spare parts by your side. After qualified installation conditions, please fill the "Confirmation for Overseas Installation & Commissioning" with official seal of the company affixed and fax or mail to us. After receiving this confirmation, we will arrange engineers to your company as soon as possible. For any questions about lab preparation, please call our 24h free service line.

❖ **Free Service Line:**

Tel/Fax: 0731—84879027

Changsha Kaiyuan Instrument Co., Ltd



Confirmation for overseas Installation & commissioning

Customer: _____ (Seal)

Confirmer: _____ (Signature)

Telephone: _____

confirmation date: _____

Installation date: _____

Please check the lab condition for installation and tick with “√” which had already be prepared .

5E-CLT2311 Automatic Chlorine Analyzer

1) Equipment and tools preparation

- Floor space: 1000 mm (W) × 4000 mm (L) × 700 mm (H)
- Power supply 220V/50Hz, power \geq 3.5KW (grounded well)
- Oxygen, purity 99.5%.
- Please confirm the connectors of cylinder are according with Chinese standard (G5/8"-RHF) (the screw thread is on the outside), so that it can match with the reducing valve the instrument is equipped, if not, please prepare the reducing valve(gauge for cylinder is 0-25MPa, gauge for outlet is 0-1MPa) by yourself

- | | |
|--|---|
| <input type="checkbox"/> Beaker 2L 1 pc | <input type="checkbox"/> Beaker 50mL 1 pc |
| <input type="checkbox"/> Dropper bottle brown-100ml 1 pc | <input type="checkbox"/> Grinding jar (brown) 500mL 1 pc |
| <input type="checkbox"/> Pipette 50mL 1 pc | <input type="checkbox"/> Graduated cylinder 500mL 1pc |
| <input type="checkbox"/> Wash bottle(plastic) 1 pc | <input type="checkbox"/> Tube brush 1 pc |
| <input type="checkbox"/> Rubber pipette bulb 1 pc | <input type="checkbox"/> Volumetric flask brown-1000ml 2 pc |
| <input type="checkbox"/> Plastic bottle (1000ml) 10 pc | <input type="checkbox"/> Glass rod 2 pc |
| <input type="checkbox"/> Ultrapure Water Polishing System 1 pc | <input type="checkbox"/> Electric furnace 1 pc |
| <input type="checkbox"/> Muffle furnace 1 pc | <input type="checkbox"/> Drying Oven 1 pc |
| <input type="checkbox"/> Analytical balance 1pc | <input type="checkbox"/> Medical syringe 1 pc |
| <input type="checkbox"/> Glove (plastic) 1 pc | |

2) Chemical preparation

Chemical reagent for the Chlorine experiment:

- GR NaOH 1 bottle
- GR KNO₃ 5 bottle
- GR H₂SO₄ 1 bottle
- GR NaCl 1bottle
- GR AgNO₃ 1 bottle
- GR KCl 1 bottle
- AR Silica Sand 25~50mesh 1 bottle
- Purification Agar-agar 1 bottle

3) Solution Preparation

- NaOH Solution: 10g/L (dissolve 10g NaOH of GR grade in 1000ml water).
- Saturated Calomel Electrode filling solution: Saturated KCl solution
- Sulfuric Acid Solution: Concentration (1+23) (V+V). Dilute 40mL GR grade pure solution in 920mL water, mix well.
- KNO₃ Solution: Dissolve 200g GR (Guaranteed reagent) grade of Potassium Nitrate (KNO₃) in 1000ml water, mix until completely dissolved.
- Saturated KNO₃ Solution: Dissolve enough GR (Guaranteed reagent) grade of Potassium Nitrate(KNO₃) in 500ml water till saturation.
- Standard NaCl solution: The concentration of Cl ion is 0.20mg/L (accurately weigh 0.3298g GR grade NaCl pre-baked at 500-600°C for 1h in little water, then transfer it to 1000mL volumetric flask, dilute to the mark and mix well).
- Standard AgNO₃ Solution : 0.01411mol/L (Accurately weigh 2.3969g GR grade AgNO₃ pre-baked at 110°C for 1h in little water), transfer it to a 1000ml volumetric flask and dilute to mark, then mix well.
- Saturated Calomel Electrode filling solution: Saturated KCl solution
- Preparation of Salt Bridge: Dissolve 5g KNO₃ and 0.75g agar powder in 25mL water by heating, after boiling, remove bubbles, and immediately fill the solution to a U-shape tube(put a rubber tube to the shorter end). Cool the U-shape tube until the agar in tube changes white, and then place it in saturated KNO₃ solution (the same with the external salt bridge solution).

Note: distilled water with resistivity greater than 3MΩ must be used in solution preparation.